Arizona Department
of
Environmental Quality

Jane Dee Hull
Governor

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Jacqueline E. Shafer
Director

October 23, 2001

Linda Johnson, Chairman
Arizona Environmental Laboratory Advisory Committee
P.O. Box 85072 Mail Station XCT 310
Phoenix, Arizona 85072

Re: Arizona Data Qualifiers for Drinking Water

Dear Ms. Johnson:

Pursuant to multiple meetings between Arizona Department of Environmental Quality (ADEQ) drinking water staff and the Drinking Water Data Qualifier Sub-committee members of the Arizona Environmental Laboratory Advisory Committee, this letter is to delineate agreed upon data qualifiers for the purposes of reporting compliance drinking water analytical results. In general, allowing pre-approved data qualifiers to accompany drinking water data will result in enhanced analytical information as well as facilitate reporting and recording keeping requirements for the participating laboratories. With the exception of the AX@ data qualifier type, all of the below-mentioned approved qualifiers will allow analytical results, for purposes of determining compliance with the Safe Drinking Act, to be accepted as compliance samples, entered into ADEQ=s drinking water data base and maintained in public water systems= facility files as public documents. The approved drinking water data qualifiers are listed in appendix A.

I am certain this use of qualifiers will be beneficial for all laboratories licensed to perform compliance drinking water analyses as well as to ADEQ water quality staff. I, or members of my staff, will continue to work with the Arizona Environmental Laboratory Advisory Committee to address any possible future modifications to the list of approved qualifiers as we fully expect the set to be an evolving document.

If you have any questions, please feel free to contact me directly at 1-800-234-5677, extension 4651. Thank you and all of the sub-committee members for their time and dedication in reaching this agreement.

Sincerely,

John Calkins, Supervisor
Drinking Water Compliance and Enforcement

cc: Mike Traubert, Water Quality Compliance Section Manager, ADEQ
Jeff Stuck, Drinking Water Section Manager, ADEQ
Don Shroyer, Water Quality Data Unit Supervisor, ADEQ

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APPENDIX A

Method blank:

B5 = Target analyte detected in method blank at or above the method reporting limit, but below trigger level or MCL.

B6 = Target analyte detected in calibration blank at or above the method reporting limit, but below trigger level or MCL.

Dilution:

D1 = Sample required dilution due to matrix interference. See case narrative.

D2 = Sample required dilution due to high concentration of target analyte.

D3 = Sample dilution required due to insufficient sample.

D4 = Minimum reporting level (MRL) adjusted to reflect sample amount received and analyzed.

Laboratory fortified blank/blank spike:

L1 = The associated blank spike recovery was above laboratory acceptance limits. See case narrative.

L2 = The associated blank spike recovery was below laboratory acceptance limits. See case narrative.

Note: The L1 & L2 footnotes need to be added to all corresponding analytes for a sample.

Matrix spike:

M1 = Matrix spike recovery was high, the method control sample recovery was acceptable.

M2 = Matrix spike recovery was low, the method control sample recovery was acceptable.

M3 = The accuracy of the spike recovery value is reduced since the analyte concentration in the sample is disproportionate to spike level. The method control sample recovery was acceptable.

M4 = The analysis of the spiked sample required a dilution such that the spike concentration was diluted below the reporting limit. The method control sample recovery was acceptable.

M5 = Analyte concentration was determined by the method of standard addition (MSA).

M6 = Matrix spike recovery was high. Data reported per ADEQ policy 0154.000.

M7 = Matrix spike recovery was low. Data reported per ADEQ policy 0154.000.

Sample quality:

Q12 = Insufficient sample received to meet method QC requirements. See case narrative.

Duplicates:

R2 = RPD exceeded the laboratory control limit. See case narrative.

R5 = MS/MSD RPD exceeded the laboratory control limit. Recovery met acceptance criteria.

R7 = LFB/LFBD RPD exceeded the laboratory control limit. Recovery met acceptance criteria.

R9 = Sample RPD exceeded the laboratory control limit.

Surrogate:

S1 = Surrogate recovery was above laboratory acceptance limits, but within method acceptance limits.

S3 = Surrogate recovery was above laboratory acceptance limits, but within method acceptance limits. No target analytes were detected in the sample.

S5 = Surrogate recovery was below laboratory acceptance limits, but within method acceptance limits.

S6 = Surrogate recovery was below laboratory and method acceptance limits. Reextraction and/or reanalysis confirms low recovery caused by matrix effect.

S8 = The analysis of the sample required a dilution such that the surrogate concentration was diluted below the method acceptance criteria. The method control sample recovery was acceptable.

S9 = The analysis of the sample required a dilution such that the surrogate concentration was diluted below the laboratory acceptance criteria. The method control sample recovery was acceptable.

S11 = Surrogate recovery was high. Data reported per ADEQ policy 0154.000.

S12 = Surrogate recovery was low. Data reported per ADEQ policy 0154.000.

Calibration verification:

V6 = Data reported from one-point calibration criteria per ADEQ policy 0155.000.

Resampling:

X = Laboratory recommends resampling.